



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,296	06/07/2001	Ryoichi Yamamoto	W-2723 (07250001AA)	4660

6449 7590 12/16/2002

ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER

BROOKE, MICHAEL S

ART UNIT	PAPER NUMBER
----------	--------------

2853

DATE MAILED: 12/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/875,296

Applicant(s)

YAMAMOTO ET AL.

Examiner

Michael S. Brooke

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/15/02 has been entered.

Drawings

2. Figures 9A, 9B and 9C should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2853

4. Claims 1, 3, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's Admitted Prior Art (AAPA) in view of Kitahiro (JP 02158156 translation).

The AAPA teaches an ink jet print head for a printer comprising a head body (150) having a plurality of orifices (20), a plurality of ejection units (see p. 2:15) corresponding to each orifice, a plurality of individual flow paths formed by partition walls (15) and a least one common ink flow path (16). An ink supply bore hole (18) is bored on a side opposite the orifices and supplies ink to the at least one common flow path.

The AAPA teaches the claimed invention with the exception of a metal film at least on a part of at least one side of the head body.

Kitahiro teaches a semiconductor device comprising a semiconductor element (1) and a metal reinforcing layer (3, see p. 5:1-13). The reinforcing layer is formed on the backside of the semiconductor element (p. 4:25). The reinforcing layer allows the thickness of the semiconductor element to be reduced without decreasing its strength (p. 4, para. 2). While Kitahiro is not directed to an ink jet print head, its teachings are directly relevant to the ink jet print of the AAPA, as this print head is a semiconductor device.

It would have been obvious to one of ordinary skill in the ink jet art at the time the invention was made to have provided the AAPA with a metal film at least on a part of at least one side of the head body in order to reduce the thickness of the semiconductor substrate without decreasing the strength of the substrate, as taught by Kitahiro.

Art Unit: 2853

5. Claims 2, 4, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Kitahiro (JP 02158156 translation), as applied to claims 1, 3, 9 and 11 above, and further in view of Gaynes et al. (6,197,619).

The AAPA, as modified teaches the claimed invention with the exception of the layer being made of Ni and the layer having a thickness of 0.1 microns to 0.9 microns.

Gaynes et al. teaches a method of reinforcing a semiconductor device by applying a Ni layer (107) having a thickness of 0.1 microns to 4 microns (col. 3:23-29). providing such a layer prevents cracking due to warping or mechanical loading by reinforcing the surface of the device (col.1:56-60).

It would have been obvious to one of ordinary skill in the ink jet art at the time the invention was made to have provided the AAPA, as modified, with a Ni film having a thickness of 0.1 to 0.9 microns for the purpose of reinforcing the device to prevent cracking due to warping or mechanical loading, as taught by Gaynes et al.

Response to Arguments

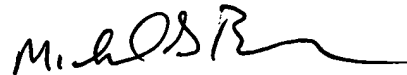
6. Applicant's arguments with respect to claims 1-4 and 9-12 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael S. Brooke whose telephone number is 703-305-0262. The examiner can normally be reached on M-F 5:30-2:00.

Art Unit: 2853

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

A handwritten signature in black ink, appearing to read "M. S. Brooke", with a stylized flourish extending to the right.

Michael S. Brooke
Examiner
Art Unit 2853

MSB
December 10, 2002